

**A PROTOZOEAE OF SOLENOCERIDAE
(CRUSTACEA: DECAPODA: DENDROBRANCHIATA)
FROM THE CANARY ISLANDS.**

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ABSTRACT

A protozoa II with morphological characteristics similar to those of *Solenocera membranacea*, but differing in some details from the published descriptions, was found in a plankton sample taken at 28° 17'N and 15° 23'W during a cruise supported by Las Palmas University (CICYT, MAR-1997-1036, *Mesopelagic* Project). The only species of the family Solenoceridae known from the Canary Islands are *Hymenopenaeus chacei* and *Hymenopenaeus debilis*. The Moroccan coast is the southern limit of the distribution of *Solenocera membranacea* and the northern limit of its sibling species *Solenocera africana*. The specimen, mentioned here, is either the first description of a larval stage of *Hymenopenaeus* or the first record of *Solenocera* from the Canary Islands, in which case it adds to known morphological variability in this developmental stage.

Key words: Canary Islands, plankton, decapoda, Solenoceridae, protozoa II.

RESUMEN

Una larva de decápodo en estado protozoa II, con características morfológicas similares a las de *Solenocera membranacea* aunque con algunos detalles diferentes a los de las descripciones publicadas, fue hallada en una muestra planctónica tomada a 28° 17'N y 15° 23'W durante una campaña financiada por la Universidad de Las Palmas de Gran Canaria (CICYT, MAR-1997-1036, proyecto *Mesopelagic*). Las únicas especies conocidas de la familia Solenoceridae para las Islas Canarias son *Hymenopenaeus chacei* e *Hymenopenaeus debilis*. La zona costera marroquí es el límite sur de distribución de *Solenocera membranacea* y el norte de *Solenocera africana*. El ejemplar, que aquí se menciona, es por tanto la primera descripción de un estado larvario de *Hymenopenaeus* o la primera cita del género *Solenocera* para las Islas Canarias. En ambos casos, se aportan datos nuevos a la variabilidad morfológica en el desarrollo larvario de la familia.

Palabras clave: Islas Canarias, plancton, decápodos, Solenoceridae, protozoa II.

1. INTRODUCTION

Some results of analysis of the Decapoda from the pelagic collections of the Museo de Ciencias Naturales de Santa Cruz de Tenerife have been described by LINDLEY & HERNÁNDEZ ([6], [7], [8]); LINDLEY, HERNÁNDEZ & TEJERA [9] and LINDLEY *et al.* ([10], [11]). Here we record a previously undescribed penaeid protozoa from a sample of pelagic fauna near nord of Gran Canaria island. The specimen has stalked eyes but without uropods or developed segmentation of the abdomen, indicating that it was a protozoa II. It has many characteristics similar to those of the protozoa II of *Solenocera membranacea* (Risso, 1817) described by HELDT [4] and KURIAN [5] but differed in some characteristics.

Solenocera membranacea is known from the north-east Atlantic as far south as Morocco and from the Mediterranean, records from further south on the African coast should probably be referred to *Solenocera africana* Stebbing, 1917 (CROSNIER & FOREST, [1]). The latter is known from the coast of Morocco as far north as 31°58'N southwards to the Cape of Good Hope but neither species of the genus has been recorded from the Canary Islands. The only species of the family Solenoceridae Wood Mason, 1891 recorded from the Canary Islands are *Hymenopenaeus chacei* Crosnier & Forest, 1969 and *Hymenopenaeus debilis* S.I. Smith, 1882 (GONZÁLEZ PÉREZ, [2]).

The development of *Hymenopenaeus* spp. has not been described.

2.-MATERIAL AND METHODS

The plankton was sampled in a vertical haul from 100 meters to surface in the sampling station (code 19A99D) using a WP2 plankton-net. The sample was taken on 19/05/99 at 8.00 hours in the north of Gran Canaria island during the "Caluma" cruise -supported by Las Palmas University (CICYT, MAR-1997-1036, *Mesopelagic* Project)-. Samples were sorted and preliminary identifications were undertaken using at the Museo de Ciencias Naturales and the specimen was further examined at the laboratory of the Sir Alister Hardy Foundation for Ocean Science at Plymouth (SAHFOS). This specimen has the code number TFMCBMZP/00840 and TFMCBMDL/00336 in the database Museum collections.

2.1-Description and comparison with *Solenocera membranacea*

The specimen is seen in dorsal view in Figure 1. Some characteristics are listed below together with those of the protozoa II of *Solenocera membranacea* as described by HELDT [4] and KURIAN [5].

Character	Present specimen	Heldt (1955)	Kurian (1956)
Total length	2.27mm	2.06-2.3mm	1.68-1.96mm
Carapace	0.85mm margin serrate	0.77-0.88mm margin serrate	Circa 0.8mm margin serrate
Rostrum	0.43mm denticulate	0.4-0.5mm denticulate	0.31mm
Supra-orbital spines	smooth	Denticulate	denticulate
Median dorsal carapace spines	None	2, (Epigastric rostral tooth and epicardiac spine)	None
Paired carapace spines	1 pair	7 pairs	1 pair
Antennule Setae	1,1,3,5	1,1,3,7	?
Antenna	2,2,2,5	2,2,2,4	?
Labrum	With acute spine	With acute spine	
Maxilliped 1	Exopod 5, endopod,2,2,2,5	Exopod 6, endopod,2,2,2,5	?
Maxilliped 2	Exopod 5, endopod, 11	Exopod 7, endopod,15	Exopod 6, endopod,13

The appearance of the specimen and particularly the ornamentation of the carapace margin indicate a close relationship with *Solenocera*. However, the description of the protozoa II of *Solenocera membranacea* by HELDT [4] shows many more carapace spines than the present specimen, whereas the KURIAN [5] shows a similar number. Both these authors show denticulations on the supra-orbital spines which are not evident in the present specimen. In addition both HELDT [4] and KURIAN [5] show a pair of elongate acute lappets and a median lobe on the posterior margin of the carapace whereas the present specimen has paired rounded lobes, with no obvious median lobe. The eyestalks are only slightly longer than the supra-orbital spines in the present specimen and KURIAN's figure but are much longer in HELDT's illustration.

The known larval stages of *Solenocera africanus* described (as *Solenocera membranacea capensis*) by HEEGAARD [3] do not include the protozoa II but are very similar to those of *Solenocera membranacea*.

The specimen may be the protozoa of *Solenocera membranacea* or *Solenocera africanus*, in which case it is **the first record of the genus from the Canary Islands** and illustrates an addition to the known range of morphology for this developmental stage. Alternatively it may be *Hymenopenaeus* sp. and as *Hymenopenaeus chacei* is rare in the seas around the Canary Islands whereas *Hymenopenaeus debilis* is frequent (GONZÁLEZ PÉREZ, [2]), it is more likely to be the larva of the latter.

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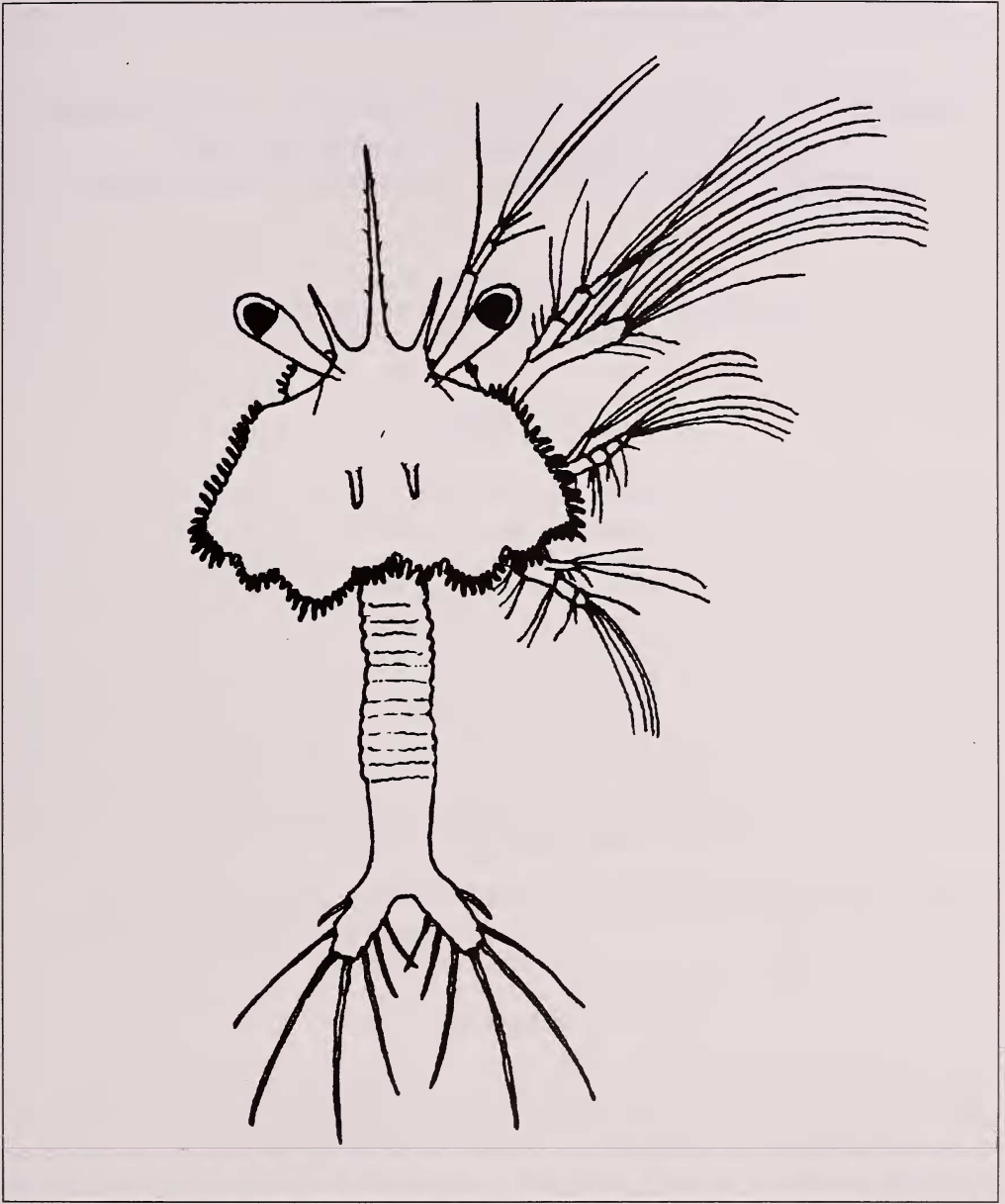


Figure 1. Dorsal view of Solenocera protozoa II taken in sample 19A99D (*Caluma*)